

of the Malayan region, and other related ferns. *Cheiropleuria* exhibits an unusual mixture of primitive and advanced characters, being thus a remarkably synthetic form. Its characters connect it on the one hand ("downward") with *Dipteris*, and on the other hand with *Platycerium*. The relatively primitive characters are the hairy investment, protostelic cylinder, undivided leaf trace, and frequently bifurcate leaf. The relatively advanced characters are reticulate venation and a "mixed" sorus. BOWER claims that "the mixed characters which this fern shows are one of the clearest examples of non-parallelism of progression in the several criteria used for comparison among ferns." An interesting situation is that probably *Platycerium* is a derivative from the *Dipteris* stock, "specialized for epiphytic habit." Other interesting connections are pointed out, and the details of the investigation are full of suggestion.—J. M. C.

Endoconidia.—BRIERLEY¹⁰ has investigated the "endoconidia" of *Thielavia basicola*, a well known parasitic fungus referred to the Perisporiaceae. These interesting cells are described by ZOPF as formed in acropetal succession, and as emerging successively through the differentiation of their lateral walls into two layers, the outer forming a sheath which is left behind. BRIERLEY finds that these conidia are not endospores formed by free cell division within an "endoconidial" cell, but are abstricted "acrogenously" from the conidiophore. The first conidium is liberated by the differentiation of its walls into an inner wall and a sheath, and by rupture of the latter at its apex. The later conidia grow out through the sheath of the first, and are freed by the splitting of their basal walls. The author thinks that this kind of conidial development is probably that of all "endoconidia."—J. M. C.

Hybridization and water requirement.—In breeding plants for drought resistance it is desirable to know whether there is a definite relationship between efficiency in the use of water in the hybrid and in the parents. This question has been investigated by BRIGGS and SHANTZ,¹¹ using corn and wheat hybrids and their parent strains, with the result that the hybrids were found to range in water requirement from 10 per cent below to the same amount above the parental mean, while the chances are even that a corn hybrid will not, in its water requirement, depart more than 6 per cent from the parental mean.—GEO. D. FULLER.

Parasitic fungi of Wisconsin.—DAVIS,¹² in continuation of his studies of the parasitic fungi of Wisconsin, has issued three papers supplementary to his

¹⁰ BRIERLEY, WILLIAM B., The "endoconidia" of *Thielavia basicola* Zopf. Ann. Botany 29:483-493. pl. 23. 1915.

¹¹ BRIGGS, L. J., and SHANTZ, H. L., Influence of hybridization and cross-pollination on the water requirement of plants. Jour. Agric. Research 4:391-402. 1915.

¹² DAVIS, J. J., Notes on parasitic fungi in Wisconsin. Trans. Wisc. Acad. Sci. 18:78-92, 93-109, 251-271. 1915.